

AMENDMENT TO THE CLAIMS

Claims 1, 2, 4, 6-9, 21, 23-25, and 27-28 are currently pending in the Application. Claim 1-2, 4, 6-9, 21, and 25 are currently amended, without acquiescence in the cited basis for rejections or prejudice to pursue the original claims in a related application. No new matter has been added. A complete listing of the pending claims is provided below and supersedes all previous listing(s) of claims. No new matter has been added.

1. (Currently Amended) A multicast packet duplication system for multicast packets containing at least multicast address data, comprising:
 - an input port configured to receive a packet;
 - a pointer table having a width comprising a plurality of entries coupled to a linked-list table; and
 - a plurality of output ports configured to output the packet, wherein:
 - a number of duplications of the packet for each of at least some of the plurality of output ports is controlled by descriptors arranged in the linked-list table and is duplicated on a per port basis by duplicating the number of duplications on at least one of the plurality of output ports rather than by duplicating on all of the plurality of output ports, indexed by a hashing function applied to said multicast address data; wherein
 - at least one of the one or more descriptor is shared among multiple output ports of the plurality of output ports, and
 - an encoding format [[of]]for the descriptors includes at least one of:
 - a contiguous range encoding that includes a starting indicator and an ending indicator for a first set of the one or more descriptors within the contiguous range; [[or]]
 - a non-contiguous range encoding that includes information or data of a most significant bit (MSB) portion of an indicator and a bitmap decoded from a least significant bit (LSB) portion of the indicator; and
 - a discrete encoding that includes a first indicator and a second indicator, ~~wherein~~

~~the encoding format is configured to be selected in response to control bits;
wherein each of the plurality of entries includes a pointer descriptor which
includes a plurality of linked-list pointers corresponding to the plurality of
output ports.~~

2. (Currently Amended) The packet duplication system of claim 1, wherein[[:]] each of the number of duplications is coupled to a Virtual Local Area Network (VLAN).
3. (Cancelled)
4. (Currently Amended) The packet duplication system of claim 1, wherein[[:]] the descriptors arranged in the linked-list table include at least one shared descriptor.
5. (Cancelled)
6. (Currently Amended) The packet duplication system of claim 1, wherein[[:]] each of the plurality of entries corresponds to one of the plurality of output ports.
7. (Currently Amended) The packet duplication system of claim 1, wherein[[:]] the contiguous range encoding includes a starting Virtual Local Area Network (VLAN) indicator and an ending VLAN indicator.
8. (Currently Amended) The packet duplication system of claim 1, wherein[[:]] the non-contiguous range encoding includes a most significant bit (MSB) portion of a Virtual Local Area Network (VLAN) indicator and a bitmap decoded from a least significant bit (LSB) portion of the VLAN indicator.
9. (Currently Amended) The packet duplication system of claim 1, wherein[[:]] the discrete encoding includes a first Virtual Local Area Network (VLAN) indicator and a second VLAN indicator.
- 10-20. (Cancelled)
21. (Currently Amended) A multicast packet duplication system for multicast packets containing at least multicast address data, comprising:
 - an input port configured to receive a packet;
 - a pointer table having a width comprising a plurality of entries coupled to a linked-list table; and

a plurality of output ports configured to output the packet; said output ports being coupled to one or more Virtual Local Area Networks (VLAN)₁[[;]] wherein ~~said the~~ system applies a hashing function to the multicast address data of said multicast packets; [[and]] ~~wherein said the~~ system uses ~~said the~~ hashing function as an index to ~~said the~~ linked-list table; and ~~said the~~ linked-list table having entries that comprise at least either multicast descriptors or pointers to multicast descriptors; ~~said the~~ multicast descriptors ~~being comprised of~~ comprising at least multicast VLAN descriptors or pointers to multicast VLAN descriptors₁[[;]] wherein a number of distributions of ~~said the~~ multicast packet ~~and for~~ an output port for distribution of ~~said the~~ multicast packet is controlled by information stored in either the multicast descriptors or multicast VLAN descriptors and is distributed on a per port basis by distributing the number of distributions to the output port rather than by distributing to all of the plurality of output ports, and[[;]] at least one of the one or more descriptor is shared among multiple output ports of the plurality of output ports, and ~~wherein~~ an encoding format of ~~said the~~ multicast VLAN descriptors or the multicast descriptors includes at least one of:

- a contiguous range encoding that includes a starting VLAN indicator and an ending VLAN indicator for a first set of the multicast descriptors or the multicast VLAN descriptors within the contiguous range;
- a non-contiguous range encoding that includes information or data of a most significant bit (MSB) portion of a VLAN indicator ~~and a bitmap decoded from a least significant bit (LSB) portion of the VLAN indicator;~~ and
- a discrete encoding that includes a first VLAN indicator and a second VLAN indicator₁[[;]]

~~wherein the encoding format is configured to be selected in response to control bits;~~

~~wherein each of the plurality of entries of the pointer table includes a pointer descriptor which includes a plurality of linked-list pointers corresponding to the plurality of output ports;~~

22. (Cancelled)
23. (Previously Presented) The packet duplication system of claim 21, wherein said multicast descriptors also include a multicast packet time to live field.
24. (Previously Presented) The packet duplication system of claim 21, wherein said multicast Virtual Local Area Network (VLAN) descriptors contain a plurality of entries each describing the multicast packet distribution to a different VLAN.
25. (Currently Amended) A multicast packet duplication system for multicast packets containing at least multicast address data, comprising:

an input port configured to receive a packet;
a pointer table having a width comprising a plurality of entries coupled to a linked-list table; and

a plurality of output ports configured to output the packet;~~said the plurality of~~ output ports being coupled to one or more Virtual Local Area Networks (VLAN)₁[:];]
wherein

[[said]]~~the~~ system applies a hashing function to the multicast address data of the packet said multicast packets; and

~~wherein said the~~ system uses [[the]]~~a~~ result of said the hashing function as an index to said the linked-list table;

~~said the~~ linked-list table having entries that comprise either multicast descriptors or pointers to the multicast descriptors;

~~said the~~ multicast descriptors ~~being comprised of at least comprising one or more~~ multicast VLAN descriptors or one or more pointers to the one or more multicast VLAN descriptors₁[:];] wherein

a number of distributions of ~~said the~~ multicast packet and an output port distribution of ~~said the~~ multicast packet is controlled by information stored in either the one or more multicast descriptors or the one or more multicast VLAN descriptors and is

distributed on a per port basis by distributing the number of distributions to the output port that is determined based at least in part upon the information rather than by distributing to all of a plurality of output ports of the system,[[;]]
at least one of the one or more descriptor is shared among multiple output ports of the plurality of output ports,

~~wherein said the one or more~~ multicast VLAN descriptors ~~contain~~ comprise a plurality of entries each describing the ~~multicast packet~~ at least some of the number of distributions to a different VLAN_s[[;]] and

~~wherein~~ an encoding format of ~~said the one or more~~ VLAN descriptors includes at least one of:

- a contiguous range encoding that includes a starting VLAN indicator and an ending VLAN indicator for a first set of the one or more multicast descriptors or the one or more multicast VLAN descriptors within the contiguous range;
- a non-contiguous range encoding that includes information or data of a most significant bit (MSB) portion of a VLAN indicator ~~and a bitmap decoded from a least significant bit (LSB) portion of the VLAN indicator;~~ and
- a discrete encoding that includes a first VLAN indicator and a second VLAN indicator_s[[;]]

~~wherein the encoding format is configured to be selected in response to control bits;~~

~~wherein each of the plurality of entries of the pointer table includes a pointer descriptor which includes a plurality of linked list pointers corresponding to the plurality of output ports;~~

26. (Cancelled)

27. (Previously Presented) The packet duplication system of claim 1, wherein a first descriptor in the linked-list table includes a first link to a second descriptor in the linked-list table.

28. (Previously Presented) The packet duplication system of claim 27, wherein the second descriptor in the linked-list table includes a second link to a third descriptor in the linked-list table.
29. (Cancelled)